

524 768

Rec'd PCT/PTO

10/524 768  
16 FEB 2005

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau(43) International Publication Date  
26 February 2004 (26.02.2004)

PCT

(10) International Publication Number  
**WO 2004/017650 A2**(51) International Patent Classification<sup>7</sup>: **H04Q 7/28**

(74) Agents: DAINES, Jeffrey, T. et al.; c/o SOMA Networks, Inc., 312 Adelaide Street West, Suite 700, Toronto, Ontario M5V 1R2 (CA).

(21) International Application Number:  
PCT/CA2003/001256

(22) International Filing Date: 14 August 2003 (14.08.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
2,398,755 19 August 2002 (19.08.2002) CA(71) Applicant (for all designated States except US): **SOMA NETWORKS, INC.** [US/US]; Legal Department, Suite 2000, Warfside Bldg.-China Basin Landing, China Basin Landing, 185 Berry St., San Francisco, CA 94107 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **SHAD, Faisal** [CA/CA]; c/o SOMA Networks, Inc., 312 Adelaide Street West, Suite 700, Toronto, Ontario M5V 1R2 (CA).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

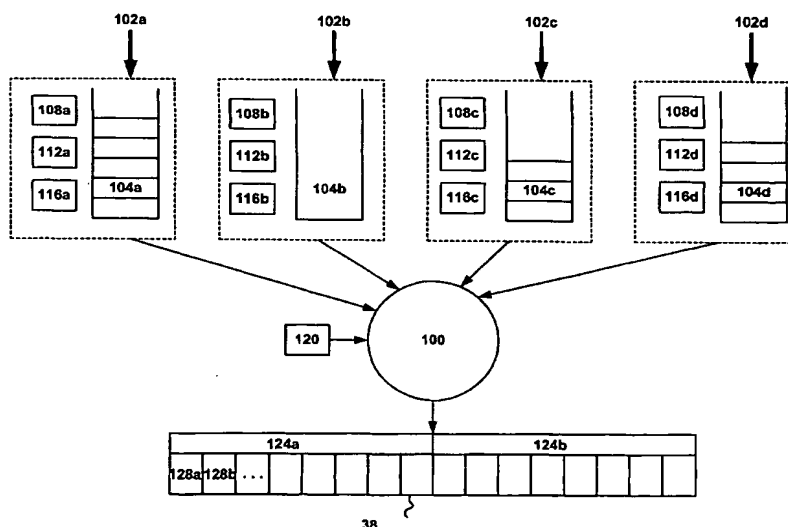
(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report

[Continued on next page]

(54) Title: SCHEDULER FOR A SHARED CHANNEL



38

(57) Abstract: A method, system and apparatus for scheduling data to subscriber stations from a base station over a shared channel. Data destined for each subscriber station is placed into queues at the base station. The base station allocates a portion of the shared channel to each particular queue based upon that queue's priority value. The priority value for each queue is determined by an adjusted QoS value and an adjusted throughput value. The QoS value indicates whether a subscriber station has been receiving data according to an agreed-upon QoS level. The throughput value indicates the data rate that can be achieved by transmitting to that subscriber station. These two values are examined by a scheduling policy at the base station. Scheduling policies can include scheduling data to emphasize fairness between subscriber stations, scheduling data to improve overall throughput, and scheduling data to achieve a balance between fairness and throughput.

WO 2004/017650 A2

**WO 2004/017650 A2**



---

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*